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ABSTRACT

This book poses fundamental questions about telecommunications as a resource of limited supply increasingly in demand. Topics that are discussed include the expanding needs of and the resources available for visual literacy; the technical, economic, and social issues that relate to the expansion of communication frequencies; the legal problems that expanding communication networks create; and the need for communication planning as an integral part of national policies and national development. (RL)

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VISION AND HINDSIGHT

The future of communications

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Contents

Foreword

Chapter 1

Visual Literacy: A current problem of needs and resouces 1

Lord Briggs, Provost of Worcester College, Oxford

Chapter 2

The Image of "The Man of Image" 12

Professor Hidetoshi Kato, Gakushuin University, Tokyo and East-West Communication Institute, Honolulu

Chapter 3

Needs, Wants, Demands, Luxuries and Scarce Natural Resources 18

Anthony Smith, St. Antony's College, Oxford

Chapter 4

Communication and Law 29

Edward Ploman,
International Institute of Communications

Chapter 5

Communication Planning as it relates to Resources and Needs 35

Ronny Adhikarya, Research Fellow,
East-West Communication Institute, Honolulu

Foreword

The papers in this book deal with the complex matter of communications. They focus on the expanding and increasingly important subject of electronic communications.

The perspective is wide because the authors are distinguished in having qualifications in both communications and one of the more traditional fields of human study such as law, history or sociology. Each author has used this double perspective to analyse, at the same time, the evolution of a specific aspect of communications and our changing perception of that process.

This kind of joint, evolutionary analysis has a distinct advantage at this time. The more we study the central role of communications in nature and society, the more we realise that we still remain on the edge of understanding communication's basic ideas and principles. There is no agreement on the nature of communications itself; nor on the idea of man as a primarily imagining, communicating animal; nor on the meaning and extent of the need to communicate; nor on the nature of society's communication resources; nor on the role of communications in society.

Yet without understanding these things, we cannot hope to know how to manage and allocate communications' various resources; nor how to use them. Nor will those who professionally have to communicate, be they policy-makers, broadcasters, educators or lawyers, know how to communicate.

As part of its process of discussion and activity, the International Institute of Communications devoted its 1976 Annual Meeting to the theme of "Communications Resources and Needs". The Conference, held in Kyoto, started from basic issues: What are communication resources? What are communication needs? How do we relate resources to needs?

This book grew out of the Kyoto conference. Chapters range from the nature of imagery to the sudden availability of cheap paper in the 1860s and today's scarcity of radio frequencies. The authors ask fundamental questions about communications as a resource. Does a society's traditional visual aesthetic affect the development of its television services? Will the increasing number of new and more

sophisticated communication devices lead us to a resource abundance; or will our needs and expectations increase even faster? How should societies plan their telecommunications systems?

The aim of the book is not to give general answers to these and other questions but rather to put them on the agenda for general discussion.

The first two papers deal with the visual image itself. Asa Briggs, Provost of Worcester College, Oxford, is a social historian and author of "The History of Broadcasting in the United Kingdom". His paper discusses the relationship between the visual and the social, and the equivalent, in visual terms, of the historical movement towards universal visual literacy. Professor Hidetoshi Kato is a sociologist who has studied communication in Japan and the West. He talks about today's "man of images" and the importance of individuals and societies learning how to discriminate between images; both those that are public and those that are self-referential and private. These key papers, while ranging over history, sociology and education, place the visual image firmly in the centre of the stage.

As communication, images have significant social meanings. The remaining three chapters analyse some of the technical, legal, economic and cultural aspects of the communication of images. The authors have drawn on their own knowledge and experience in these specific fields, as well as the discussions at the Kyoto Conference, to produce a synopsis of current thinking in each field.

Edward Ploman
Executive Director
International Institute of Communications

Chapter 1

Visual Literacy: A current problem of needs and resouces

Lord Briggs, Provost of Worcester College, Oxford

I am not going to offer a psychological or a philosophical treatise on semiology or aesthetics, but rather to attempt a practical exercise. I want to direct our attention towards a few considerations about pictures and images. The reason why I have chosen to use the word "literacy" in my title, and to refer to the rather dangerous metaphor of "visual literacy", has less to do with philosophy than with economics. It springs from the fact that in almost every country during the course of the last 150 years a great deal of the energy of developing educational systems had gone into extending the skills of reading and writing. The goal has been the universalisation of those reading and writing skills which, when present in previous periods of history, were possessed only by minorities; in other words, the goal of universal literacy. It is common, now, to relate the conception of "literacy" to the whole process of historical evolution, so that societies are divided in their development into their pre-literate, literate and post-literate phases.

From the very start, there were resistances from both above and below to the spread of literacy, to its generalisation. It is important to look at and assess these if we want to understand the sort of resistances which arise and continue to arise when people go through fundamental sorts of change in their own cultures. There was a fear on the part of people "above" that universal literacy might have dangerous social results; and there was very often a passivity on the part of people "below" who felt that literacy did not really matter sufficiently to them in their daily lives for them to get involved in it without a campaign to urge them to do so. Once started, however, the generalisation of literacy as a process seemed and still seems irreversible. The resources which have been applied to it and which are still being applied to it are massive. The way in which literacy campaigns have been planned and organised has always been shaped in terms of a strategy

relating needs and resources; needs have been identified and massive resources have been applied.

At the present stage in the universalisation of literacy, we can note three things about the process. First, and perhaps rather surprisingly, the process of universalising literacy can never be regarded as complete. Today, more than one country which previously took literacy for granted is having to spend large sums of money on adult literacy campaigns. Literacy campaigns in developed societies, as in newer societies, are employing new as well as old technologies, and as they do so are faced with very specific problems concerning the relationship between need and resources.

Secondly, literacy is never an end in itself. Literacy has many different uses, unplanned as well as planned; some of them individual and some collective; it also has possible abuses. Many uses of literacy go beyond such things as the practical support of employment in agriculture and industry to personal enjoyment and enrichment. Not everyone who is literate gets through the first stage of reading or writing to the second stage of enjoyment and enrichment. One of the metaphors which we often use when we talk of literacy, therefore, is that of the "gateway" or "portal" through which the literate pass from a fundamental grasp of reading and writing skills to "better things".

Thirdly, the command of verbal language through reading and writing, the knowledge of an alphabet and how to use it, is only one kind of command of one kind of language. Another kind of command of the verbal language was and is represented by all the arts and techniques that go with oral traditions in largely pre-literate societies. Other kinds of "language" are also worth serious attention. Alongside the language of the alphabet we can identify unspoken languages of sign and gesture in personal communication and languages of signs and symbols in public communication. In fact, we have extended the notion of "language" in both the arts and the sciences. The arts direct our attention not only to pictures but to images; the sciences direct us to the most modern computer languages on which the continuing electronic revolution depends for its whole operation. Many separate intellectual pursuits suddenly connect. Not surprisingly, we have discovered the importance of linguistics, which is now a booming subject at the very frontiers of research in countries

with quite different intellectual and social histories. The study of linguistics links academic disciplines which were previously very widely separated, and fosters work in a new cluster of cognitive studies which enable us to understand more clearly how the mind works.

But I do not want to get involved in the kind of academic discussion which would lead into the areas of linguistics and semiology. I want rather to talk about some of the implications of the continuing electronic revolution in relation to pictures and images and our responses to them. We are already being forced as practical communicators to ask fundamental questions about literacy in relation to other forms of communication. Indeed, at every preceding stage of the communications revolution, practical questions about literacy had to be asked. What would the telephone or the telegraph do to the letter? Would it be the postcard with its vital picture and its very few words which would be the main survivor rather than the letter? At a later stage, we asked what would radio do to the book? Would people stop reading if they could listen? Would public libraries close down? Would publishers go out of business? Then, we asked what would television do to radio as well as to the book? This time, would it be the radio companies which would go out of business? Would people be content just with hearing if they could see as well?

We have lived through so many different phases of the communication revolution, and in such a very short period of history, that it is difficult to remember how odd some of the temporary conjunctions or coexistences of communications have been at a particular time. We had wireless telegraphy, for example, but not wireless telephoney – dots and dashes but not words. We had silent cinema, for example, and sightless radio, pictures without words and words without pictures. We adapted ourselves very quickly to these curious conjunctions and coexistences; and there are many of them still left. In many countries there is still an enormous span of old and new modes of communication: a coexistence of traditional forms of communication and the new; the oral tradition, and electronic gadgetry; the rich and intense (if limited) forms of local communication, and the global.

In the light of these changes, realised and continuing, confused and confusing, we now recognise that we are in a

far more complex world of communications than that early nineteenth century world when the goal of universal literacy was first proclaimed and reading and writing skills for all began to be considered (albeit centuries after the introduction of the first printed book) as a desirable objective. The fact that different countries are at different stages in their use of "old" and "new" communications and that they each have their own inheritances means that it is impossible to talk about needs and resources in general. We are not drawing up balance sheets or inventories but investigating processes. We must talk about needs and resources in terms of particular places and particular times. We have got to take into account each "inheritance" as well as the future. We have got to consider the interactions between needs and resources through many different phases, noting how the provision of resources can generate new wants as well as satisfy identified needs.

In the early history of literacy, for example, a few people thought that it was essential to teach people to read so that they could read the scriptures. It turned out that those who were taught to read were very soon reading quite different things from the scriptures. Needs continued to generate new wants – magazines to read on railway journeys or air travel, books to browse through at bedtime, or to display in beautiful bindings. Many of the consequences of literacy were unforeseen; and so, always, was the economic factor.

Now if literacy led to that complex set of interactions, how much more complex is likely to be the interplay of needs and resources in relation to the new electronic media and their further development. The recent growth of Citizens Band radio in the United States is a development which was not planned to meet public need or premeditated in terms of public policy. It bypassed all institutionalisation and posed many difficult questions about what – or indeed, if any – rules should regulate it. As the questions multiply, the experience broadens and deepens. Citizens Band radio is certainly meeting scattered human needs as it develops (needs which were not met through institutionalised broadcasting) and it is meeting those needs without involving large public resources. But, of course, it could only develop in a country which had certain social and cultural features. It represents a social and cultural shift toward decentralised personal or

group communication at a time when there are many pulls, in the opposite direction, towards the increasing integration of communications systems. As such, CB is of interest to countries with quite different social and cultural features from those of the United States. The process has something in common, I think, with literacy. With CB people are using electronic media in the same kind of way as they use the media of paper: very simply, very directly, and with very little concern for what anybody might think about what they are doing.

This has several implications for our understanding of literacy. Very few people have a very highly developed sense of visual literacy in a world where it is increasingly necessary to have it. If the battle for literacy is not yet over – and it never will be – the battle for visual literacy has not yet begun. There is much to consider when we turn from words to pictures or images. Effective travel depends on picture language even more than on verbal language. So does most cultural communication, and a great deal of electronic information exchange.

Yet while governments in general spend a great deal of money on literacy campaigns and the maintenance of literacy, very few governments and few other agencies spend much money on the improvement of visual literacy. We have to fend for ourselves. We have to develop our visual literacy in the same way as people had to develop previous forms of literacy before the spread of schools and formal literacy campaigns.

This process of fending for ourselves has something in common with learning to speak a language before we learn to read or write it. We learn our spoken language, however difficult its structure, in the very early years of our lives. We learn in our own families and with our own neighbours, and usually without being taught in any formal sense at all.

Acquiring visual literacy obviously has something in common with learning a spoken language. In fact, it is directly related to basic human development. The perceptual development of the child, like the history of societies, goes through different stages. Our perceptual patterns are gradually formed during the first pre-literate stage, when the world is more or less a formal blur (with human presence and support as the immediate elements). At this very earliest stage of our

lives, needs come before precepts. This contrasts with what happens later. In terms of visual understanding, our developing needs can be hindered by the way we are treated. Blockages can result from what happens to us when we attend school or watch television. It is important to bear in mind that the act of watching television's pictures and images in the home often precedes going to school – or, indeed, reading. Later, when we start our schooling, are we encouraged to think of the relationships between scale, proportion, direction, colour and texture and their possible tension, one to the other – or of the diversity, persistence and ubiquity of images?

When we are plunged into television's world of pictures, we are like a baby confronted with the need to secure out of the globality some sense of differentiation, if not, ultimately, some more sophisticated integration. Yet we do not have the human presence and support, which a baby has, to sustain us. Even during the later stages of education it is only the specialists – artists, architects, designers and town-planners – who really look at sets of visual relationships in any kind of systematic way. Even they are usually given little education in the relationship between the visual and the social.

There is an obvious contrast between the vast amount of effort and money that we deploy so that people can understand the skills of reading and writing (and to benefit furthermore from their fullest possible enjoyment) and the very small effort and expenditure that we devote to getting people to understand the visual. Of course, there are still some societies that are pre-literate or relatively untouched by technological change and these, without very much thought or consciousness, maintain strong indigenous traditions in which the visual counts. But there is likely to be no critical (or innovatory) element within those traditions, as there is in a literary or even an oral tradition. It is possible, alas, for the visual expression of such cultures to become frozen or debased. This has happened in many cases during the last hundred years. Such societies are very vulnerable.

These points have become important because the global diffusion of television marks not only an important but a decisive stage in world history. It poses the questions of needs and resources much more dramatically than ever before. It would be quite untrue to say that television brought

back pictures into the so-called developed world. Pictures had never ceased to be used as images to accompany prayer, as illustrations to go with words, as advertising and publicity devices to go with slogans, and as art objects to be collected in homes and galleries. And moving pictures – the cinema – had become an extremely popular entertainment. But television accomplished something quite different. It brought back pictures into homes where frequently there had been no pictures for decades. Moreover, the pictures were often "live"; and, like what was seen off the screen but not on the poster or in the picture-frame, they were mixed with sound.

Because television's pictures were mixed with sound, it tended to be regarded in the early days as a natural extension not of the visual tradition or of the cinema, but of sound broadcasting. In fact, television was neither an extension of sound broadcasting, nor an extension of the cinema. It was something new, and slowly recognised as such. If it had been treated as an extension of sound broadcasting, the danger would be that its own inherent characteristics and potentialities would have been stultified. If it had been treated simply as an extension of the cinema, the danger, given the history of the cinema, would be that television would become identified with one function only, the provision of entertainment, and its "live" qualities might have been unexploited. It took some time for television to be recognised as a medium with its own distinctive characteristics.

People who had been brought up in the literate tradition often treated television with considerable reserve. As we have seen, they had been given little or no formal education in the visual. They were afraid of it, but they were also contemptuous of it. In the very early years, there were some quite remarkable expressions of contempt. One of the most dismissive was made by an editor of the "Manchester Guardian", the famous British newspaper, that television itself would bring no good because the very word was half Latin and half Greek. The word, rather than the fact itself, was seized as the point on which to pin the first criticism. In the same vein, there was more talk of the television aerial as a symbol than there was of the images that it conducted to the screen.

Fears were expressed about television's content, however, and about its capacity to induce addition. The large numbers of people who had been brought up in the literate tradition,

who did not look much at pictures, argued that no-one should spend much time looking at pictures. There was also the feeling, expressed very quickly, that there would be far too much television, that it would offer an endless flow impossible to control. This theme of over-saturation, which has now been applied to the entire information environment, emerged originally in relation to television. When highly literate people thought of "education" by television, they were curiously restrained and restricted. The best term they could think of to describe everything "graphic" in film, film strips, maps, diagrams and graphs through to television was "visual aids", which is one of the most unsatisfactory and restrained conceptions ever introduced into the language of communication.

Although social scientists examined particular aspects of television's impact and there were public controversies, often confused, about its likely influence on society, it took several years before any attempt was made to assess the cultural significance of the new phenomenon. Very quickly, however, a metaphor was found to describe television; the metaphor of the window. The metaphor that had been applied to literacy was the metaphor of the gateway or the portal. You could open the gateway and go out and explore things for yourself. The window was different. From the new "window of the world", a window in your own room, you looked out on the world. You could be quite happy if you never went out at all.

As far as the United States and most Western European countries were concerned, television arrived in society amid much doubts, fears and anxiety. In those countries there was no tradition of visual understanding, appreciation or criticism that was in any way comparable to the literate tradition or even to the musical tradition. There was little to help people put television into some kind of place, or to relate it to what they had before.

These aspects of television's visual significance raise four questions about the relationship of the visual and the social. First, does television's technology, which is virtually the same in every country, produce different results in countries which have a different cultural fabric? Can we see significant differences in the development of television in countries which have different traditions of visual expression and appreciation? Or is television placed in the position of a

destroyer of the traditions of visual appreciation already there? How many societies and cultures of each kind are there?

Second, will television's visual resources meet cultural as well as information and entertainment needs. After all, sound radio and the gramophone provided individuals with unique resources for musical appreciation which they had never had before.

Third, can we enhance visual education; and can we do so not only through educational programmes but also through educative programmes? Not only programmes with specific educational objectives have educative effects; in fact, programmes which have no such objective may have even larger educative effects. In the field of visual education, as in other kinds of education, there is a very sharp distinction in principle between education programmes, which are directly packaged and prepared for specific purposes (about architecture, for example), and educative programmes (which inevitably figure buildings, interiors, objects and so on). I suggest that in some cases the educative effect of the general programmes may outweigh the educational effect of the specifically educational programmes.

Fourth, will television generate new wants in the same way as literacy generated new wants beyond the practical and indeed, beyond those foreseen by its campaigners? There are interesting parallels here. It is already plain that a whole new range of technical devices now permit visual materials to be as widely diffused as books, magazines and newspapers (which are developing themselves a new visual/verbal mix). Discussions about the likely market for videocassettes and videodiscs often centre on the likelihood of greater "individualisation". So far, these markets have found it extraordinarily difficult to establish themselves; and far more attention has been devoted to the (competing) hardware than to (attractive) software. If these markets are established will they simply lead to individuals replaying peak-hour television programmes, or something quite different?

I want to conclude with three general observations. First of all, a visual critique of television by itself can never be an adequate critique of the medium. Fundamentally, television poses the question of the relationship between the visual and the social. Who controls television? Who directs it? Who is in

charge of making programmes and choosing programmes, and of the overall output? Will new video markets allow for choice? Can we continue to play with video (like Citizens Band radio) in the absence of institutional frames? These questions are directly related to those about the visual characteristics of television as a medium. If we are ever going to develop a critique of television, we must consciously and at every point relate the visual critique to a social critique.

In recent years we have become more aware of a number of social needs that are intrinsically linked to the visual. In the last twenty-five years we have changed our attitudes more than I would have thought possible. For example, when we talk about the environment we cannot avoid bringing in visual questions right at the start. We have raised for the first time a number of basic questions about the relationships between the historic and the visual in both our natural and man-made environment, and the balance between creation and destruction. It is realised, nowadays, that we must relate our visual inheritance to what we are doing to it; to what we are destroying and to what we are changing. Visual literacy is particularly important in this context. At the UN Habitat Conference in Vancouver, an IIC team (working under the Institute's previous name of IBI) examined the way in which the UN, national delegations, observers and the press used films from different countries. The conference was concerned with almost every conceivable kind of issue; yet at the very heart of it there was a sense of visual consideration. I would suggest that at present most people in most countries do not have the requisite knowledge, understanding, education to enable them to deal with the central issues. I want to stress, finally, the whole question of the way in which in developing countries the indigenous creative arts and cultures can be maintained and their quality assured in periods of very rapid economic change. It seems to me that the visual is an element which must be brought into the reckoning. In fact, it should never be left out. It is not whole environments which matter; the design of objects is also important. We spend an extraordinarily small amount of time talking about the design of television sets and other devices for visual communication.

If literacy suggests a portal or a gate through which we pass to enrichment and enjoyment, we should press for the same possibilities in the electronic media. We ought to make

the most of the new technologies which permit individual selection in visual communication. Content is of the utmost importance. The medium is not the message.

The capacity to move confidently into a world where pictures will be given their proper due will depend not only on the development of a greater degree of visual literacy on the part of the public but also on a greater creative freedom for the writer and producer. He must achieve the same kind of independence in relation to electronic media as the writer and producer did in relation to the history of the printed and published word (in its last stages, at any rate). There is a critical interaction at every point, therefore, between the development of literacy, verbal or visual, the enhancement of the freedom of the writer and producer, and the quality of the final product.

Chapter 2

The Image of "The Man of Image"

Professor Hidetoshi Kato, Gakushuin University, Tokyo and East-West Communication Institute, Honolulu

The most popular centre for story tellers in Japan for over a thousand years was the temple of Motoseiganji in Kyoto. Thousands of storytellers, most of whom were women, used to meet there to exchange ideas, discuss techniques and pass on information. In medieval times, their main mission was to disseminate the ideas and beliefs of Buddhism to isolated small communities throughout the country. Since most people at that time were illiterate and naive – badly informed – the storytellers had to work hard to get their message across. As a result, while at Kyoto, they invented many striking devices and expressions of audio-visual communications. They dramatised the Buddha's life and stories with some unique visual and verbal expressions. By using a picture-scroll stretched on the ground, they managed to preach and entertain at the same time. The stories were mostly about heaven and hell and, as the storyteller spoke, he or she would point at each picture in turn. The audience were alternatively terrified by horrible pictures of hell and rejoicing in the peaceful image of paradise. In this way, these naive, illiterate people were led to believe in Buddhism. Indeed, the diffusion of Buddhism in Japan during the medieval period was largely due to the efforts of the storytellers and their talents in audio-visual communication.

We can see several parallels in other parts of the world. The great religions were founded on a very profound contemplation and meditation of their founders (Buddha, Christ, Mohammed). As a result their doctrines were systematised into sophisticated metaphysics and theologies. For the professional theologians, these verbal statements were sufficient. But the missionaries had to appeal to the general public and so had to use pictures and sounds. The stories were dramatised, simplified and modified. As a matter of fact, looking back over the history of fine art in both the East and the West, we find that the primary means of religious communication were painting, music, sculpture and architecture. And

they, of course, were extremely audio-visual. Until the arrival of the modern period, the fine arts were more or less completely inter-related with religion. The most common themes of painting and sculpture were sacred figures and stories. Most music was religious. The great buildings were temples and cathedrals.

It is not my main purpose here to discuss the relationship between art and religion. But I would like to emphasise this idea that the arts and techniques of audio-visual communication originated in the process of the diffusion of religion and that this development is universal throughout the history of civilisation.

In the past two or three centuries, however, revolutionary changes have taken place in audio-visual communication. The European Renaissance meant that the arts which have been devoted to religion became more or less secularised. Artists shifted their attention from sacred objects and images to things which were secular, if not profane. Instead of painting sacred images, they became interested in looking at 'real-life' portraiture, still life and so forth. Similarly, musicians became detached from the church, and started to experiment with thematic music, and 'absolute' music with free styles.

Artists became free to capture street scenes (like Lautrec in France) or natural scenery (like Sessyu in Japan) and to experiment in the style which we now call 'realism'. At the same time, the new literary style of the novel appeared and became popular. Novels were essentially a new kind of make-believe device by which readers were invited to join in imaginary realities. The great writers of the modern novel, such as Balzac, had the enormous talent of verbally describing images in some detail; as a literary critic once pointed out, a novel is "pictures written by words". The success of the novel meant that people became more prepared to use images in their writings.

The ability to imagine is a uniquely human quality. My psychologist colleagues have told me that it is extremely difficult to define an image. But we know what an image is and we know that we can imagine anything, anytime. From the ancient and primitive arts we know that human beings were able to make images in their minds. We also know that they tried to transform these images into such tangible forms as cave paintings, masks, carvings, and so on. But it is import-

ant to note that, with the secularisation of image-making, modern man and woman began to deal with images that were more diversified, both inside and outside. They were faced not only with the sacred, church-orientated images of medieval people but also with the secular images of some very different times and places. As a result, their minds became more flexible and mobile. It became possible to imagine anything in any place in any situation. At this point I am reminded of what Daniel Lerner discovered some 20 years ago. He found out that the traditional society became modern as a result of the acquisition of psychic mobility and the ability to identify with different places and different times.

In the past 100 years, thanks to technological innovations in communication, the image, already secularised and diversified, became duplicated and amplified. Printing techniques generated hundreds and thousands of identical messages. Millions of people had access to messages – to images. As economic productivity rose and mass education became more general, more and more people wanted to buy these duplicated messages and images. Duplicate information became a new commodity which could be sold to the general public.

These producers and distributors of information are almost endlessly engaged in making and distributing new images. In most cases, their systems do not get overloaded. Most consumers, on the other hand, are being heavily loaded and sometimes overloaded by the images they receive every day. This market situation (the socio-cultural situation of the transaction of images) became more marked with the invention of more mobile forms of media at the turn of the century: photography, motion pictures, gramophones, radio and television.

These new media are more real than the old – or at least, more quasi-real. Their movements, sounds and colours have a tremendous potential for make-believe. For those of us who live in societies which are "electronically-coated," the distinction between reality and images, between the real and the imagined, has become obscure and ambiguous. We do not know what is real and what is imaginary. We often take an image as real and we often imagine reality is not real (as Daniel Boorstin discussed extensively in his book on images). For instance, we know when we think rationally about it that the picture of a woman on TV who is trying to sell a

particular brand of shampoo or detergent is not real. It is just an illusion created by electronic circuits; that is all. But many of us tend to perceive the image of the lady and her voice as real, and when we are in a supermarket many of us buy the brand she recommended. We are wandering in a world where we cannot know what is real and what is unreal. We may be forced to re-examine and redefine the meaning of reality. Several scholars have become aware of these facts and have described this phenomenon as an "information explosion" and "information overflow". But we do not yet know what to do about it.

Thanks to today's electronic technology, these TV images can be transmitted across every geographic boundary to a much wider audience. Unlike the press and other traditional media, which depended on transport, the new electronic media are capable of reaching all parts of the planet. Satellite communications are now changing the whole world and, more significantly, our picture of the world. Via satellites, an event which took place in one spot on the Earth can be transmitted almost simultaneously to the rest of the Earth.

We do not know what the effects will be. We may argue that simultaneous broadcasting covering the whole world will create a better informed public, a more informed mankind. My recent experience at the East-West Communication Institute in Hawaii is relevant here. In the summer of 1976 we had a seminar on "Images of the United States" with a dozen scholars from India, Pakistan, Indonesia and other parts of Asia as participants. One of the most interesting findings was that all these Asians had more or less clear images of the United States. I do not say – and I do not know – if their images were correct. The important fact was that these people in Asia had at least an image of the United States and of every other part of the world. Twenty years ago, it was impossible for a farmer living in a small community in Central Asia to have an image of other countries. He was not provided with any information about things outside his small local community; and. without information, nobody can have an image. But today, because of his or her exposure to film, radio and television, almost every person on this planet can have at least an image or two about any place or about anything. Our minds are full of images. Very often, in fact, an image precedes, and even precludes, the reality.

In Japanese folklore a mammal called the tapir is said to be "the animal who eats dreams". I am inclined to think that human beings are now transforming themselves into tapirs. The process seems irreversible; the more information, the more images, that are produced every day, every minute, the more people consume more information. Information has become a new resource to which millions of people have access, or want to have access. Indeed, information is a kind of food, indispensable for many of our contemporaries. Many of us simply cannot survive without information.

If this information-as-a-resource really is indispensable for life, we must ask ourselves some rather difficult questions. In the first place, we may reasonably ask if the quality of information we are consuming today is satisfactory; if it is healthy. Like foodstuffs, certain information may be nutritious while others may be harmful or even poisonous. Mankind has spent the past half million years deciding what is edible, and what is harmful, and what is poisonous. We have had only a few decades to study the quality of information. Some kinds of information may be dangerous to mental health. Abnormal violence and sex on TV may be dangerous. Many communication researchers in both the East and West have studied the impact of TV violence upon children and many theories are studied in many countries. But we still do not know if we are eating good information. We do not even know what is good and what is bad for our health. It is a matter of public health, and we should take these issues seriously.

From an egalitarian viewpoint, secondly, we must admit that there is a considerable uneveness in the distribution of information. Some people enjoy an abundance; while rather more people suffer from a shortage. This uneveness is remarkably similar to the current distribution of food; a minority are overfed and (in spite of the few who try to diet) wasting hundreds and thousands of tons of food everyday, while many more millions are almost starving. I know from my own experience that in many Asian and African developing countries, information is a rather scarce resource and there are never-ending shortages. In view of the fact that communication and information are some of the vital ingredients in developing and building a nation, these shortages constitute a serious problem. It is a problem for all of us.

I want to emphasise, thirdly, the complexities of the relationship between communication media and the availability of information. In the case of food, the allocation or reallocation of resources among people has a certain simplicity. If one population is starving and another has a food surplus, the latter may sell or donate its surplus to the former. In this way, millions of people can be saved. Japan, for instance, where food is scarce, has been buying huge quantities of wheat, meat, potatoes and various other agricultural products from Canada, Australia, the United States and other countries. Wheat is neutral. We can bake the same loaf of bread from wheat imported from the Soviet Union as from wheat imported from the United States. I see no ideological implications in a loaf of bread. But information cannot be exported and imported so simply. Information is culture-bound. Information produced in one culture may be irrelevant in another culture. Imported information can have a disturbing and even painful influence. It is understandable that some people in the developing countries look on the developed countries' exporting of information as a form of cultural imperialism.

Talking about global communication and sophisticated electronic technologies, some of us tend to look at the future rather optimistically. We should remind ourselves that information is different from wheat or meat.

We are not yet sophisticated enough to consume proper information in a proper way. Most of us do not have the ability or the literacy to understand visual statements. Our image-eating habit is very primitive and indiscriminatory. We tend to eat everything and we do not know what the outcome will be. In order to utilise our resources better, we must be modest enough and humble enough to admit ignorance and imperfection. Many of us act as if we know everything about audio-visual communication. In fact, we are standing at the beginning of a new stage of history, not the end.

Chapter 3

Needs, Wants, Demands, Luxuries and Scarce Natural Resources

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During the last two centuries, when mankind has been increasingly occupied with the process of industrialisation, we have come to associate the process of development with the idea of invention. Each important stride has been made in the wake of a specific discovery or new mechanical contrivance. Society has become dependent upon these apparent gifts and has turned them rapidly from new luxuries into essentials. Today, we can no longer hope to feed and clothe the population of the planet without the machinery which has evolved decade by decade. Each stage in the process of industrialisation has left people believing that at last scarcity was being left behind; that at last there would be enough of a particular commodity for certain basic needs to be satisfied effortlessly and forever. But, although mankind has frequently felt itself standing on the very brink of abundance, it has never in practice managed to abolish scarcity. We cannot say with confidence that we have a sufficient supply, forever, of anything. New wants and desires have always overtaken the expanded supply provided by the new invention.

We are probably on the brink of another major expansion and transformation of human capacities in the field of telecommunications. We can be certain of the potential because the process of "invention" is already complete; in a sense, we know how to transfer to computers and modern transmission systems a whole host of human activities hitherto conducted through painful human physical and intellectual effort. We can imagine and foresee a world in which many of the basic processes of education, business, industry, banking, as well as the distribution of news, information, personal correspondence, scientific and medical knowledge and a vastly expanded flow of cultural and entertainment material, are all disseminated by means of a new generation of telecommunication devices, many of which already exist somewhere in embryo form and some of which have already been demonstrated.

What we have not yet invented is the means of human organisation to maximise this potential. We have not yet found the means by which mankind can share out the basic natural resource – the electro-magnetic spectrum – upon which many of them depend. We still have to discover how to fit these and future inventions into human society, how to organise priorities nationally and internationally and how to overcome the problems of transition. In many cases, these social problems of transition and organisation are far more intractable than the primary technological invention of the new devices themselves.

For some societies, the new gadgetry could provide services which are thought by others to be absolutely fundamental; the newer satellites, for example, can provide telephone services in remote parts of the globe where the telephone has been a most unlikely practical possibility. The same resources could be used by already developed societies to provide extremely sophisticated information or entertainment services. Is the video-telephone less important to the Parisians than a national postal service via telefacsimile for Indonesia? If so, how is this global priority to be expressed? How can the real or imagined needs of one society be made to take precedence over the real or imagined needs of another? Should areas of the spectrum be set aside, perhaps for a generation or two, to lie fallow, as it were, while society develops more capacity to exploit them, even though society already has a clear, achievable and useful goal which can be reached immediately by using the same resource?

These questions cannot be pondered for very long: there is a revolutionary release of telecommunications energy occurring before our eyes and ears and nothing can stop it or delay it. Decisions which are being taken actively or merely passively as a result of inaction can have the effect of foreclosing on certain developmental options, in first, second and third worlds alike.

We therefore must consider very carefully as societies on different levels of development and with quite different views of social and international equity how needs and resources should be defined. In what sense does this or that nation have a need for a given allocation of the radio spectrum in order to allow its ships or its remote schools or its fourth television channel to operate? Is there in fact, such a thing as a funda-

mental telecommunications need? And in what sense is communications a resource? What obligations does a nation have towards the world as a whole to conserve the electromagnetic spectrum?

These questions of needs and resources revolve around political issues. For example, the world's merchant ships currently use long wave frequencies. For some time these frequencies have been very congested. Sometimes a ship will have to queue for twelve hours to send an urgent message to shore. It is known that the world's shipping could be far more economically, efficiently and safely organised if ships used very short wave frequencies. But many owners are unwilling to invest in the new devices. Their current equipment is often fully amortised; the new equipment is comparatively expensive. An added difficulty is that thousands of such vessels are technically registered in Liberia or Panama and there is no available governmental machinery which can oblige them to modernise their communications systems. Meanwhile ports are unnecessarily clogged and valuable oil is wasted while ships idle. To impose a completely rational telecommunications system on the world's merchant fleets would involve a degree of coercion which has no precise precedent, no means of enforcement and no established international authority. Examples of this kind are today multiplying. New technical opportunities render old forms of wastage more manifest and more painful. But the task of establishing individual and collective needs on the one hand, and of monitoring the rapidly evolving resources on the other, is extremely complicated.

In the last two decades a vast increase has taken place in the variety of activities which rely upon telecommunication resources. In some ways this expansion is similar to the revolution in business and educational activities which took place a century ago and which relied upon and emerged from the invention of apparently limitless quantities of cheap paper. When we were at the threshold of this present telecommunication revolution it seemed that, once again, mankind was looking upon an uncharted and limitless telecommunications ocean, in which satellites, coaxial cables, optic fibres and waveguide transmission systems, and the gradual exploitation of very low and very high frequencies of the radio spectrum, would constantly increase the available

transmission resources of the globe beyond the level of desired use.

More recent events have taught us to see these resources in a quite different light. Although human ingenuity and capital can continue to expand them for the foreseeable future they will, in practice, always remain scarce and limited. Perhaps a similar way to the paper revolution of the last century, the telecommunication revolution is going to bring with it problems of allocation and disputes of equity and political control which will ensure that the sense of abundance will be permanently denied to us even while enormous expansions are taking place.

The International Telecommunication Union, founded as long ago as 1865, has succeeded generation by generation in keeping the world from spectrum chaos by pooling the sovereignity of member nations. But it is now beset by a host of new and difficult problems. Eighty per cent of the world's telecommunications media are owned by only ten nations; the whole of the developing world accounts for less than eight per cent. Somehow the ITU has to cope in the next decade with the completion of a series of major tasks of reallocation. It is a period in which the expansion of telecommunications will be ever more closely associated with economic development.

The allocation of frequencies is a continuous process. The most recent ITU conference – the allocation of the LF/MF band in Regions 1 and 3 – took place in Geneva in 1975, and an agreement was drawn up which will come into force at the end of 1978. In 1977, a World Administrative Radio Conference will plan the satellite broadcasting service in the 12GHz band. To allocate the frequencies by which countries may provide themselves with extra television channels via geostationary satellites is likely to prove a very tough negotiation task indeed. Finally, in 1979, another World Administrative Radio Conference will revise the entire Table of Frequency Allocations. The 1979 WARC is concerned with the allocation of the spectrum to different services – ie, fixed, mobile and broadcasting – and to different countries. It will determine the framework and a great deal of the content of radio communications for the rest of the century. The 1979 conference will inevitably bring out the inherent tensions between developed and developing worlds. It may

also reveal a rather crude division along geo-political lines, although the national and regional telecommunication needs of countries seldom reflect ideological patterns. For example, interesting parallels can be drawn between countries as diverse as Belgium and Sri Lanka in terms of their terrain, size and population. In some developing countries, a satellite could provide the first real national communication system of any kind; in others, it would be something of an additional luxury.

From the point of view of economic and social development, particularly in the Third World, there exist some extremely urgent informational needs. These needs will be a dominant factor of the 1979 WARC. Because of their urgency, all countries need to be helped to understand the potential benefits that the telecommunications resources offer for cultural and economic development.

Each country, of course, is sovereign, and different from all others in its national resources and its needs. The significant point, which is often not clearly stated, is that each country must therefore be well enough informed to chart its own resources, map out its own telecommunications needs, and formulate a series of logical and chronological demands. It would be a tragedy if the WARCs dissolved into geopolitical camps, all the adherents tending to assume they had opposing and exclusive needs. Only through extremely adept and sensitive planning, based upon the appropriate technical information, can countries make the best use of the negotiating opportunities provided by these important conferences. What is needed is a judicious mixture of intelligent diplomacy and highly technical information.

If we were now planning the telecommunication systems of the late twentieth century from scratch, our problems would be much easier. Almost all communication messages that are now broadcast over-the-air could be sent through cables, and the wavelengths currently used for fixed point-to-point radio and television could be primarily used for mobile services and possibly for emergency back-up services. If this had been done 60 years ago, what we have come to call the "mass media" would probably never have developed at all in their present "mass" forms; entertainment and information, if they had been disseminated along modern cables and fibres, would now be much more private forms of communication, involving more consumer, individual, choice and more tied

down to specific local and regional areas. The spectre of one big mass audience would never have haunted the world, would never have confronted it with the profoundly vexing intellectual and institutional problems which beset today's broadcasting.

Yet now the pressure on the radio spectrum cannot be easily decreased; is indeed likely to get worse; and the problems of finding criteria for equitable access to it between nations is as difficult as it is urgent.

Radio and television can no more be abandoned in order to use their resources for some other economic or developmental purpose than the newspaper could be abandoned, or the postal services. All of these in their time were novel advances whose organisers were uncertain as to whether they would ever become established.

The whole process occurs under the shadow of our initial paradox. Between invention and exploitation the abundance vanishes. One finds a typical and immediate frustration in the increasing use of large scale integration techniques for manufacturing the terminal equipment which is an essential part of the new transmission systems. Large scale integration now makes possible a major redeployment of labour within modern societies. As a result, many industries which depend on the manufacture, use and movement of paper will find themselves in a crisis of 'role'. Some are already finding that paper has its own inherent physical constraints. Many postal services are simply unable to cope with today's supply and demands for mail – for messages written on paper. Postal services are facing a series of new opportunities of the electronic delivery of written material and a new set of agonies of retraining or removing traditional postmen. Furthermore, transference towards electronic delivery will mean that new equipment needs to be placed in every single home for sending and receiving material.

Many new devices for storing and retrieving data -- the new computer memories, printing equipment, the latest teletext services – depend increasingly on geostationary satellites, whose orbital belt 22,300 miles high is perhaps the scarcest and most expensive of all the new resources. The dependence on geostationary satellites is increasing over a whole range of activities that formerly depended on the physical movement of large quantities of paper and personnel.

These various opportunities of telecommunications open up the prospect of a major shift of social investment from the public sector to the private. In the future a much larger part of telecommunications investment will be bought and maintained in private groups (business, households). A very significant proportion will exist in homes. An earlier example of this process is the shift occasioned by the development of broadcasting, which switched investment from the theatre and cinema to the home in the form of radio and TV sets. The source of entertainment shifted from group neighbourhood viewing to family domestic viewing; the whole entertainment industry changed its structure as a result. (The development of hi-fi, super-8 film and video cassettes and discs is a continuation of this process.) We now face parallel developments in the postal services and in the press.

But changes in the method of distribution nearly always bring about changes in the nature of the items being distributed. We might see in the press, for example, a retreat from the idea of the newspaper as a medley of material which may interest different sections of its readership to very different degrees. Since the development of the mass circulation press at the beginning of this century, newspapers have tried to appeal to ever wider readerships and have tended to amalgamate more and more ranges of material within a smaller number of publications. The newer editorial policies of some magazines, on the other hand, have aimed at more specialist markets. The electronic delivery of printed material is likely to continue the magazine along this increasingly specialist path and to narrow down its ranges of material to suit the needs of smaller groups of readers or even individual readers. Consumers may begin to pre-select their areas of interest; advertisers will be able to focus more narrowly on the kinds of reader they want. The changes in telecommunication and in the manufacture of terminal devices could thus lead to a change in the nature of news and other published information as well as in their distribution. Subtle and far-reaching changes could take place in the ways in which information is created, collected and shaped for its readers.

One major area of priority, it is now clear, must lie in the development of means to make the most of each frequency band. There is a variety of ways in which the world's resources of spectrum can, as it were, be stretched. For instance,

data, voice and image signals can be sent in digital forms, which use much less space. They can be switched in packets. New multiplexing by multiple access frequency and/or time division have the same result. It is also possible to effect great economies by the more skilled use of power levels in transmission and in new methods of controlling the magnetic field covered by a given signal. As telecommunication engineering marches further towards the receding goal of abundance it will become feasible to explore the hitherto unusable parts of the spectrum, including visible light waves and X-rays.

Mankind will proceed, via expansion and better exploitation, from scarcity to scarcity in the search for abundance.

Today's technologists are "stretching" the spectrum in a series of uneven developments, each of which is prompted by the demands of society (including the technologists' own) for a particular service to be expanded or improved. But society also impinges its own image on the technology itself. Marconi's discoveries of certain uses for Hertzian waves led first to the improvement of ship-to-ship and ship-to-shore communication, then to the expansion of military and official communication services and only after a quarter of a century to the development of radio as a mass entertainment medium. The "mass audience" phase was retarded, if that is the right way of looking at it, because the manufacturing capacity, the administrative and marketing machinery, and the perception of society's needs for further media of information and entertainment, were not yet ready. Nature is always ready to support development. Human society takes longer to make up its mind, and to change it. Furthermore, by staking out its options too rapidly in one generation, society can often multiply the technical troubles of the next generation. Hindsight, alas, is the only exact human science.

Hindsight reminds us of the paradox of apparent abundance and actual scarcity. We are today in a position similar to that reached in the last generation of the 19th century when means had been discovered (and fully developed by industry) to produce paper from wood pulp at a fraction of the price of the paper produced from old rags (itself based on the limited human resource of cast-off fabric). At first, the forests of Northern Europe and Canada seemed limitless; usable trees were found more quickly than demand increased. It was thought that trees could be grown and the production

of paper increased without stint. A revolution in human communication took place in the 1870s, 80s and 90s. Cheap text-books made mass education cheap and easy to supply. Bookstalls spread as rapidly in those years as radio stations were to in the 1920s. Whole new industries for the making, handling and shipping of paper sprang up and prospered. The newspaper expanded its readership to those who could pay only a halfpenny a day.

The vision of abundance did not last long. Countries like the United Kingdom and France which were no longer able to supply their own paper needs became very dependent on countries (including some colonies) from which they had to import wood pulp. The revolution occasioned by cheap paper ended in a series of shortages with industrial, political and economic complications. The vision of abundance had been genuine; it had seemed that no society could possibly expand its needs to the extent of using this new resource to its limits. But by 1914 the dream was over; and another natural resource of mankind, confronted with the spectre of rising costs, joined the list of those which demanded constant and patient international negotiation.

So it is with the electro-magnetic spectrum and the new services that increasingly rely on it. The "abundance" which some techno-prophets proclaimed only a decade ago is already evaporating. We are seeing a series of shortages. The resource which Marconi developed for Victorian ships to use for navigation and which seemed as limitless as the ocean on which they floated, has now become the very sinews of a land-based society, a pre-requisite for industrial activity as much as human leisure, and an essential condition for the fulfilment of much of modern human expectations in the fields of education, transport, medicine, and interpersonal communication.

The new developments in telecommunications bring with them a perplexing set of social and political dilemmas, especially in the area where the jurisdictional limits of public and private spheres overlap. The telephone handset provides an interesting example of some of the new problems. In most countries it is made by private firms and paid for indirectly by private subscribers. Many of the new facsimile, data and teletext services, however, depend on a different terminal unit. The entire development of these new services (and the

concomitant decline of the manual services they supplant) will depend on the development and dissemination of new types of telephone terminals. What priority will this be given? How will countries co-ordinate the various codes and systems on which effective interconnection depend? What proportion of Gross National Products will be consumed by the task of converting the tens of millions of telephone handsets into the more advanced units that are required? Until a very large proportion of terminals in any given region or country has been changed, the new services cannot function properly, and those who want and begin to need them will be unable to gain the full benefits. It is not the same as individually, home by home, exchanging an old kitchen mangle for a modern washing-machine. All telecommunication devices are to some extent interactive and economies of scale are reached only when the hardware has been installed on a very broad front.

Yet even when this is achieved there remains the problem of individuals and groups who are outside the system because of personal desire, poverty, geographical location or other reasons. These people – to whom radio and television sought to offer a kind of cultural and social enfranchisement – will tend to find themselves even more tightly excluded. On a wider scale there is the problem of the country which is poor or remote or changes late to the new systems. The more sophisticated the devices, the harder it will be for the laggard nation to catch up; and the more dependent it will be on the technology developed and manufactured by other countries. The inequalities that are generated by a period of intensive innovation are sometimes vexingly irremediable.

One final question permeates these technical, economic and social issues. Are we on the threshold of a new extension of mass society or of some entirely new kind of human society? On the one hand, information of all kinds will become even more prodigiously available; the great dream of a democracy of knowledge and information with international dimensions might seem to be at hand. But the sheer quantities in which material is made available, and the manner in which the individual will be enabled to have as much as he likes, and avoid whatever he finds dull or irrelevant, will probably lead to a new kind of social divisiveness. The scarcity of the resources employed by radio and television have tended to guarantee that their content has a kind of universality of

application. The mass newspaper developed into its mass stage precisely by dint of amalgamating many different kinds of material and many different kinds of audience into the new penny-a-time transnational reading public. The dream of the founders of the great broadcasting institutions was to provide information, education and entertainment to the whole of their public simultaneously and with equality. Of course, some parts of the audience would watch more of one genre than another. And different groups could derive quite different forms of satisfaction from the same material. But so long as the material was created on a high enough level of quality and interest, a kind of democracy of communication was thought to ensue. Many broadcasting systems created their own internally or externally-imposed structures of balance precisely in order to guarantee that their radio and television services addressed themselves to the whole range of the audience, mass and elite, at the same time.

The new telecommunications environment opens up the possibility of a quite different line of development. Audiences will have the choice of much more material. This material, if broadcast, will be occupying a scarce international resource, the supply of which is becoming highly politicised. The pressure to provide material for a specific audience, which is known to want it, will be very great. Since there will be no apparent abundance there can be no redundancy in the material supplied. It would seem possible therefore that the mass audience will come to manifest itself much more in terms of its component elements. The "mass", will be likely to consume much less of the material available – which informs and educates. That, however, would not mean that the public will necessarily polarise into a mass versus an elite; information will arrive in sufficient variety and scale to satisfy a large series of overlapping elites and perhaps create new ones. serviced by the new telecommunications, with a largely "entertained" section of the audience (smaller than the old "mass") and a series of large but minority, more or less informed, audiences. In political terms, that would suggest a society falling woefully short of the liberal/democratic vision, but by no means the manipulated world of 1984. It would be a society which had evolved partly according to its desires and partly to its needs.

Chapter 4

Communication and Law

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The present moment in human history has rightly been characterised as a period of historic discontinuity. It is posing formidable challenges in all areas of societal life, both in law as an ordering principle of international relations and in communications as a major factor in the emerging "world society".

Both in theory and practice, communications is in a state of transition and dynamic development. The present image of the role and function of communications, and the organisation, structure and regulation of communications activities, is one of rapid change and widespread confusion.

The same is true about law in this field. Communication and information services have generally developed without the benefit of coherent policies or overall planning. Consequently, neither national legislation nor the present international legal framework provide a coherent "communications" or "information" law. Existing law is pluralistic and unco-ordinated. It is based on certain limited, functional objectives. Communications issues are the concern of several different branches of law each of which has its own varied and own origin and separate evolution and draws upon different concepts and legal approaches. The result is legal rules that are to varying degrees deficient and often contradictory.

The obvious cause of this state of affairs is that concepts and structures in the communications field have generally been associated with a particular technique or level of technology. Because the relevant legal rules and law-making institutions are often technology-based, they are inadequate when faced with a technology that is rapidly changing. In general, the available legal frameworks antedate the "communications revolution", and concepts and rules evolved for one mode of communication act as a straight-jacket in the

new situation. Any adaptation to the new circumstances is mainly done on a patchwork, basis.

This piecemeal approach has resulted in the adoption of legislation covering only limited aspects of communications, often in the interest of particular institutions or social groups, and without the consideration of larger policy issues.

The lack of consistency and coherence in legal concepts and provisions is also conditioned by historical circumstances. Some important branches of "communications law" were first developed in the mid-1800s; while others are based on more modern international legal concepts. Another constraint is that in such early areas as telecommunications law and copyright law the original concepts were formulated by a limited number of mainly European nations; while space law and several other areas have evolved in a wider international context.

At the international level, the discussion of certain major issues such as "freedom of information" and the "free flow of information" has reached a virtual impasse. Most discussions still seem to be conducted without due attention to technological innovation or to the relevant changes in political, social and cultural circumstances and attitudes.

Obviously, the differences in approach to these issues is largely caused by different political and ideological attitudes, and they are often discussed in purely political terms. However, a closer analysis often reveals the impact of basic – implicit or explicit – assumptions of different legal traditions. This awareness of the significance of law would surely help in international legal negotiations. But it is almost never mentioned, despite the fact that even within the Western legal tradition there are clear differences between approaches based on civil law and those based on common law. These differences between basic concepts become more pronounced when the many other legal systems of the world are taken into account.

It is clear that communications and law need urgent reconsideration. However, we cannot know which aspects of communications at the international level can or should – or cannot or should not – be regulated in law until we have analysed the approaches and concepts embedded in the major living legal systems.

The pressure on decision-makers at the national and international levels increases the importance of this kind of independent, fresh analysis as a contribution to their discussions. It is, for example, a much needed input to the ITU's 1979 World Administrative Radio Conference which will revise the entire Radio Regulations.

This paper suggests that legal structures can best be seen in terms of the 'conditions which determine the use of the available means of communications'. The analysis – like all studies in this field – suffers from the lack of a generally accepted theoretical basis and conceptual framework. There have been a number of interesting attempts to formulate more generalised theories of communications and information but, basically, we still seem to be at a stage which most other disciplines have left: whatever the aspirations, most communications studies to a large extent remain descriptive. Typically, there is not even an accepted terminology or taxonomy, except within limited areas. The concepts used in telecommunications have little connection with those used in intellectual property rights and these, in turn, are different from those developed with regard to information processes or the mass media. In order to provide some sort of basis, it might be as well to start with the assumption that communications is the foundation of social organisation. In other words, that without communication no social organisation is possible. In this perspective, communications, in the double role of process and product, must be seen as a major resource in society, and as characterised by specific features conditioning its use.

The users of this resource are, in principle, all members of a society and societies themselves as producers and/or consumers. Since the conditions of use are not the same for the various groups of these "communicators", the next step is to distinguish certain user categories. A first rough summary might comprise:

1) societies acting through their major institutions, mainly their governing bodies;
2) other organised interests or activities, ranging from industry to universities, among which the communications and media institutions have a special position;

3) individuals or groups of individuals, who in the communications field are often lumped together under such labels as the general public, the audience etc.

This approach of seeing communications as a resource and then trying to distinguish the various categories of "users-communicators" leads to a consideration of the specific communications needs of societies, groups and individuals. In this perspective, it is clear that whatever conditions of use exist or are sought in communications, the traditional concepts of "freedom of information" and so on are no longer sufficient. They have to be integrated with others and put in a larger context which encompasses a much wider range of considerations.

Seeing communications as a resource immediately poses questions of development, distribution, access and management. In terms of other resources, such questions are an important subject of public debate. It is time that a similar debate began in a comprehensive manner with regard to communications.

Second, communications as a fundamental factor in social life has to be dealt with in relation to major policies in politics, industry, culture, education and so on. For example, a general policy of decentralisation has obvious implications for the planning and regulations of communications systems.

Third and equally important in this perspective are the relationships between various categories of users-communicators; how are these relations perceived? how are they or should they be regulated?

Fourth, the impact of scientific and technological advance, although not an issue specific to communications, has become particularly acute here. More important than to simply look at another list of new technical gadgets is to consider the implications of current technological trends, particularly the increase in capacity and flexibility, and the move towards integration. Integration can be seen at all levels: in the introduction of digital transmission systems which seem to result in integrated, total systems; and in the combination of traditional categories. One example of this is the exploration of the grey area between telecommunications and broadcasting, and the confusion over whether new "information services" such as CEEFAX/ORACLE, Viewdata and Reuters'

IDR should be seen as broadcasting, press or telecommunications.

The best way to deal with these trends is through a "systematic" approach. An interesting application of systemic thinking was made at the !BI conference on new technology and intellectual property rights held in Bellagio, Italy in July 1974. It implies an analysis of how "creative works", in various guises and transformations, flow through the different communications media and channels within the total communications system available in a given society or at the international level.

Fifth, and in a larger perspective, conditions of use, whether seen in terms of resources or needs, must also take into account the renewed interest in the psycho-biological aspects of communications. This includes the capacity of the individual to handle information; information undernourishment; and information overload. The concern here is with the information flows between the individual and his environment, physical as well as social.

The branches of relevant law are as diverse as the communications issues. There is no legal corpus which can be described as communications law. At present any systematisation or classification of relevant provisions from different legal branches is necessarily somewhat arbitrary.

The concept of the "international law of communications" as used by some writers generally includes no more than telecommunications and satellite communications. This concept has been criticised, moreover, as implying a "great deal more regulatory order than in fact exists" (Edward McWhinney).

Another approach takes the expression "global communication" to include shipping, aviation, telecommunications and postal services. This produces some useful ideas, but there are a number of conceptual difficulties. Telecommunications have a different character than the other forms of communications suggested and, according to the ITU definition, include broadcasting in its technical aspects, which does not fit into this model. It would therefore seem more logical to classify shipping and aviation with other forms of transport, while recognising certain important points of contact with communications. The postal services can more

readily be seen as a form of communications which should be included in an overall approach to communications law.

The categories used here have proved helpful on previous occasions in providing a reasonably logical, albeit unorthodox, framework. They are:—

- telecommunications law
- space law as applicable to communications
- information law, comprising freedom of information, the free flow of information, right to correction, right to communicate, rules concerning libel and slander, right to and protection of privacy etc.
- intellectual property rights
- cultural law
- law in relation to new communications services, including computerised services.

There are profound differences between the suggested categories. Some are clearly established or recognised branches of law (telecommunications, space law, intellectual property rights). Others, like information law, are composites covering a number of subject areas; while others such as cultural law can be seen only as still rather vague, emerging fields. It is debatable whether mass media legislation should be treated as a special category. Many of the applicable provisions are to be found under the other headings; but they are dispersed and might therefore warrant a special treatment despite the unavoidable overlapping.

The last category refers to a number of emerging new services (tele-text, telefacsimile, etc.) which so far have not found a place in the legal scheme of things. In this category are also included legal issues concerning computerised information services.

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41

Chapter 5

Communication Planning as it relates to Resources and Needs

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Very few people would disagree that communication is essential for societal stability and change. Without exception, therefore, societies formulate public policies to encourage the growth, development and regulation of the communications systems which serve them. Many communication activities are purposely organised to attain specific socio-economic goals and to preserve socio-cultural views.

Many countries have specific development programmes to try to reduce the acknowledged inequalitites of opportunities, resources and information access. Their weapon is a deliberate planning process whose objective is to accelerate the transition. The goal of balanced national development – with its interrelated components of economic growth, social progress, and benefits that are equitably shared – requires a process of communication that informs, educates, trains, and motivates individuals and communities through dynamic multi-lateral contacts and influences.

Communication should, therefore, be an integral part of a nation's development plans and policies. Communication components should be incorporated in the development planning process at the earliest possible moment. The effectiveness and efficiency of development programmes depend upon a balanced application of communication material and energy inputs.

Communications planning is one of the keys to this process. With it, all the physical and manpower resources that are available for the (communications) support of a development programme may be better mobilised, utilised and co-ordinated. In operational terms, communication planning is, first, the process of gathering information about past and current communications needs, activities and resources, and future possibilities and, second, the integration of this information into viable alternative plans and programmes to

meet anticipated communication needs and promote constructive activities for the total well-being of communities and individuals. In any society, this process involves the preparation of both long-range and short-range plans (i.e. strategic and operational). The plans should ensure that resources are used efficiently and equitably. They should lead to the implementation of communication policies in the context of the society's goals, means, and priorities, and subject to its prevailing forms of social and political organisation.

The society's characteristic processes of decision-making, its allocation of financial and supporting resources, its economic and social behaviour, etc., are obviously important here. But it is the society's communication policies (the set of principles and norms established to guide the behaviour of communication systems) which provides the context for communication planning and which are equally significant. Communication policies are usually shaped in the context of a society's general approach to communication. Their orientation is fundamental and long-range (although they may have operational implications of short-range significance). Emanating from political ideologies, the social and economic conditions of the country and the values on which these conditions are based, they strive to relate these basic themes and beliefs to the country's real needs and its prospective opportunities for communication. Communication policies exist in every society, though they are frequently latent and disjointed rather than clearly articulated and harmonised.

The relationship between policies and planning is complex and dynamic. A UNESCO document, 'Proposals for an International Programme of Communication Research' (1971), explains the relationship in this way:

> "Conceptually it would be most satisfactory if action could go successfully through the indicated stages: policies, strategies, operational planning, and budgeting. In reality, however, planning and operational action can precede the formulation of policies. The emergence of new technologies, particularly striking in the communication field, the iniatives of powerful enterprises, either publicly or privately owned and externally generated, and the immediate needs of communication networks to extend their range and improve their quality, lead to

action wherein the long-range effects have never been considered. Engineers and regulatory agencies are often not aware of the fact that their decisions, made within a limited context to achieve immediate ends, may determine the future of communication for decades to come. If operational planning and policies are not coordinated, considerable wastage and conflict may result".

The statement implies a recognition of a functional relationship: policies determine the context and objectives of planning; planning articulates and embodies policies. But policies are not just sets of norms. They must include an evaluation of political structures and the means of arriving at and regulating policy. Planning must necessarily interact with decision-makers and politicians as well as with theoretical constructs.

There is therefore a continuing need to develop a dialogue between policy makers and operational planners (it must include an on-going mechanism for citizen input). This dynamic process is important if changing social needs and communication resources are to be appropriately balanced. The UNESCO policy and planning document quoted above pointed out that "communication planning can only be realistically executed within the framework of communication policies defined as appropriate to political and societal structures and the communication needs of the society." This kind of internally cooperative arrangement between researchers, citizens, policy makers and planners can be further supported by external advice and research. To indicate the rich relationship between communication policy and planning the following UNESCO planning process can be cited. The process involves the following:

1. The collection of basic data and a systematic analysis of the country upon such bases as population densities, geographic limitations to communication, variety of social structures, ecology and agriculture, transportation, physical communications, mobility of population, electrification, industrial capacity, manpower capacity, etc..
2. The production of an inventory of the present communication resources including modern and traditional media and analyses of the variety of present communication structures. Such an inventory should also include a study

of the audience, its communication consumption patterns, etc..

3. The critical analysis of present communication policies (or lack of policies) including such considerations as ownership, structures, decision-making, etc..
4. The critical analysis of the communication needs of each society especially in relationship to the existing social and communication structures and the uses to which communication is put.
5. The analysis of the communication components of all aspects of the national development plans and programmes in order to ascertain the communication requirements and capacity which are essential to the execution of the plan. These needs must then be reconciled with the means and capacity available.
6. An analysis of constraints on communication developments and structures.
7. The definition of aims and objectives of future communication policies. The study of future needs and the projection of possible strategies and the structures to support them and the design of alternative approaches including their requirements for personnel, hardware, finance, research, training, commensurate with the values and goals of the society.
8. The analysis of economic, social, cultural and educational relevance of the alternative communication strategies and structure and upon the basis of all these various scales of relevance, making the choices which are necessary to implement plans and programmes.
9. The phasing of the overall development of communication systems in a logical sequence matching needs as assumed under present and future conditions as part of national development policy and planning.

This process incorporates the key features of the policy and planning process and its relationship with present and future communication needs and resources.

It has been argued that such long-range, systematic approaches, utilising communication needs and rights in order to guide resource development and usage, have never actually been adopted. The fundamental macro-relationship between a society's future communication needs and resources has never been systematically studied or modelled with a view to

facilitate such an approach. So far, it has been the technological resources in a society that have defined the limits and satisfaction levels of human communication needs. This situation has evolved, in part, out of necessity; but it is more due to the decision makers' inability to conceptualise the macro-system with its detailed and intricate relationships, and to make complex future-oriented policies.

The Secretary General of the UN, Kurt Waldheim, has pointed out the long-term dangers inherent in this problem:

> "The failure to assert the primacy of policy over technology is an alarming and increasingly dangerous phennomenon of the modern world. All too often, those responsible for the future development of technology are insufficiently aware of the far-reaching political, economic and social implications of their choices. This danger is present also in the area of communication. Unless that danger is removed, future developments in the fields of communication may well produce consequences which were neither foreseen nor desired from a more comprehensive national and international perspective. Often such consequences can only be modified later at considerable cost, if at all".

The ability to make the appropriate systematic approaches clearly depends on having previously put policy before technology.

The rapid development of communication technology, and current prospects for the use, worldwide, of low-cost communication devices for development, have stimulated new interest and concerns among social scientists, planners, and administrators in the developing and developed countries. Computers, communications satellites and other new technologies now offer effective means for collecting and disseminating ideas and information among large populations in almost any part of the world. Communication technologies can greatly facilitate the extension of modern health, educational and other social services to isolated, poor and underprivileged communities. In some countries, impressive results have been achieved by linking the new communication technologies with interpersonal channels and the traditional media of communication. In many developing countries, planners and administrators are searching for ways and means of mobilising communication resources for national develop-

ment and integration. At the same time, however, questions are being raised about the nature and adequacy of communication technology and institutions. There is a growing concern that the introduction of new and more powerful technologies might create more problems than it solves. Mass media expertise and institutions have been used in the past and may be used in the future more as tools of economic exploitation and cultural domination by the rich and powerful of the poor and weak. Unplanned changes in communication without the appropriate restructuring of organisations and social institutions can cause serious crises – especially in a society in transition.

Communication technologies and processes are resources that are available to different nations in varying degrees. The nature of the problem and the different availability of these resources imposes limits upon the manner in which communication can be utilised both for internal development and for facilitating the exchange of information and ideas. There are wide differences between countries at different stages of development. In developed countries communication systems have been subjected to varying degrees of planning – sometimes, to no planning at all. The degree of control ranges from total national or corporate regulation to almost unrestrained operation in the open-market conditions of supply and demand and commercial dependence

It is not insignificant that in a number of developed liberal societies where broadcasting is operated largely by commercial organisations great importance is attached to traditions of the free exchange and expression of views. Many of those who are involved in these systems feel that they provide their viewers and listeners with what they want. They argue that the process of marketing and the continuous measurement of ratings and audience shares ensures that the popular predominates. Nevertheless, no broadcaster is totally unrestrained in exploiting communication systems in the pursuit of profit. In several notable cases in Western Europe, Canada and to an increasing extent in the United States the need to plan communication systems more tightly and comprehensively is being recognised, and new regulatory processes are being studied and debated.

In a number of developing countries, there is an urgent and perceptible need for the national co-ordination and

control of communications at all levels. This urgency, and the anxiety to establish and protect national unity and to secure national identities, might be seen to justify methods which other countries would find unacceptable. Most such methods are designed to resolve development problems in the shortest time.

There are different views, however, about whether the planning of communication systems is justified, and whether the national control and coordination of communications is justified. A number of developing countries believe it is essential to plan communication systems of all kinds in order to support national development policy. But some developed societies prefer to see their mass media performing the role of the "Fourth Estate" and having some independence with which to defend the individual against the state.

At present, the sciences of communication policy and planning are in a state of development and transition. Most communication researchers, public policy makers, planners and citizens are aware of the overwhelming number of technological and social alternatives available, but are taken aback by the problem of synthesising collectively viable actions and giving them priorities.

> Ithiel de Sola Pool has pointed out that:
> "The public policy makers in every country must deal with problems arising from a rapidly changing communication technology. How to evaluate, orient, and control the consequences of this new technology is a problem for all of them. The new technology is coming so rapidly, the alternative possibilities are so many, the technology is so sophisticated, that governments are bewildered. Virtually anything that one wants to do is do-able – at a price. The problem is how to make intelligent decisions in an area in which the facts are hard for laymen to understand, the economic beset the externalities, the politics ridden by powerful vested interests" ('Comparative Studies of Communication Policies', IBI Annual Conference, Mexico, 1974).

Many policy makers, especially in the developing countries, have demanded access to more unbiased planning, technological information and impartial advice. They want this information and consultation to be designed to meet the

particular needs of their societies, and not the communication industries.

This complex situation is further complicated by insensitivities and a lack of understanding between the very groups that should be developing a dialogue. Specifically, citizens point out that policy makers and planners are not involving them in what (in many cultures) is supposed to be a "public" process. Communication researchers add to this criticism by pointing out that policy makers and planners do not take research and recommendations into consideration when making decisions. These criticisms involve the question of needs, both perceived and felt, and of both the planners and the people.

Experience from India's one-year SITE experiment in the direct satellite broadcasting of educative and general programmes to community television sets suggest that "perceived" needs were not necessarily "real" needs. A closer involvement with communities and a more intensive study of individual local cases would have provided better indicators of local needs.

Policy makers and planners sometimes argue that citizens are apathetic and, in some respects, lack the required expertise to solve complex social and technical problems. They also point out that researchers are not problem orientated and cannot make "real world" decisions. To a neutral observer (if neutrality is possible) it is clear that each group holds views that contain some "element of truth". What is less clear is the proper approach required to develop this dialogue.

It is clear that there is an increasing awareness that both communication policy and planning are essential components in national and international development. This suggests that communication research should be approached both systematically and with a heightened awareness of the future environment in which the policies and plans must operate. Attention must be drawn to the evolving requirement that communication needs and resources should be a prime consideration in communication policy and planning research.

This research requirement was recognised and clearly stated nearly four years ago at a UNESCO meeting of experts on communication policies and planning in Paris in 1972.

> "Policy-makers are increasingly aware that, in the allocation of natural and social resources, future-oriented policies

can no longer afford to ignore the communication dimension. The returns to be gained from viewing a nation's diverse communication activities as a whole, and projecting them into the future against the needs of a society and the individual, are worth the effort, vital and urgent".